

IN THE SPECIFICATION:

The specification as amended below with replacement paragraphs shows added text with underlining and deleted text with ~~strikethrough~~.

Please AMEND the paragraph beginning at page 1, line 5, as follows:

AD The present invention relates to an image processing technique, and more particularly to an image processing technique for generating a clear multi-valued image from an input image that is generated by reading, as a multi-valued image, print contents ~~into~~, and ~~that~~ which includes printing dots and moire patterns.

Please AMEND the paragraph beginning at page 1, line 29, as follows:

AD To resolve this shortcoming, it is an objective of the present invention to provide an image processing technique for generating a multi-valued image with distinct contours from an input image that is generated by reading, as a multi-valued image, the dotted print contents of printed matter ~~into~~, and ~~that~~ which includes printing dots and moiré patterns.

Please AMEND the paragraph beginning at page 2, line 4, as follows:

AD An image processing apparatus, ~~that is~~ according to a first aspect of the present invention, comprises: a contour image generator for generating a contour image from an input image generated by reading, as a multi-valued image, print contents (a dotted image) of printed matter ~~into~~; a contour adder for adding contours to the contour image by referring to a contour density distribution in the contour image to generate a contour added image (~~an~~ a contour expanded image in the preferred embodiment); and an image synthesizer for superimposing the input image and a smoothed image obtained by performing a smoothing process for the input image, by referring to the contour added image, to generate a synthesized image (a superimposed image in the preferred embodiment). Since the contours are added in accordance with the contour density distribution in the contour image, a necessary contour portion can be recovered. As a result, a multi-valued image with distinct contours can be obtained.

Please AMEND the paragraph beginning at page 2, line 29, as follows:

AB The aforementioned contour image generator may include deletion means for deleting a contour pixel within the contour image, which satisfies at least one condition wherein a contour level of the contour pixel is equal to or smaller than a first threshold value. By deleting contour pixels satisfying at least one condition in which a contour level of the contour pixels are equal to or smaller than a first threshold value, moire patterns and ~~etc.~~ the like which are included in the contour image can be removed. As a result, the multi-valued image with distinct contours can be obtained. The contour image from which contour pixels satisfying the aforementioned condition are deleted may be called ~~as a~~ partial contour image in the preferred embodiment.

Please AMEND the paragraph beginning at page 5, line 2, as follows:

AB Fig. 1 is a block diagram illustrating an overview of an image processing apparatus in accordance with an embodiment of the present invention;

Fig. 2a is a first portion of a flowchart showing the processing performed for the embodiment of the present invention;

Fig. 2b is a second portion of a flowchart showing the processing performed for the embodiment of the present invention;

Fig. 2c is a third portion of a flowchart showing the processing performed for the embodiment of the present invention;

Fig. 3 is a diagram showing the smoothing process performed by a smoothing unit 3;

Fig. 4 is a diagram showing the process performed by a contour generator 5;

Fig. 5 is a diagram showing the process performed by a contour expansion unit 7;

Fig. 6 is a diagram showing the process performed by an image synthesizer 9; and

Fig. 7 is a diagram showing a function $F(X)$ used by the image synthesizer 9.

Please AMEND the paragraph beginning at page 5, line 23, as follows:

A7
Fig. 1 is a functional block diagram illustrating an image processing apparatus according to the preferred embodiment of the present invention. The image processing apparatus comprises: an input unit 1, for generating an input image; a contour generator 5, for generating a contour extracted image and a partial contour image from the input image; a contour expansion unit 7, for generating a contour expanded image from the partial contour image; a smoothing unit 3, for generating a smoothed image from the input image; and an image synthesizer 9, for generating a superimposed image from the input image, the smoothed image, and the contour expanded image. The input unit 1 is, for example, a scanner that optically reads printed matter 11 having dotted print contents. The superimposed image that is output by the image synthesizer 9 is stored, for example, on a storage device 13. The input image, the contour extracted image, the partial contour image, the contour expanded image and the smoothed image, which are obtained during the processing, may be stored on the storage device 13.

Please AMEND the paragraph beginning at page 12, line 19, as follows:

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Through the above processing, an image in which regions which include a lot of printing dots and moire patterns are smoothed with continuous gradation (the smoothed image is used with priority[.]) and in which an original image (the input image) information of contour portions which do not include printing dots and moiré patterns so much is maintained can be generated from printed matter which includes dotted print contents. As a result, a multi-valued image having a more natural appearance can be obtained.